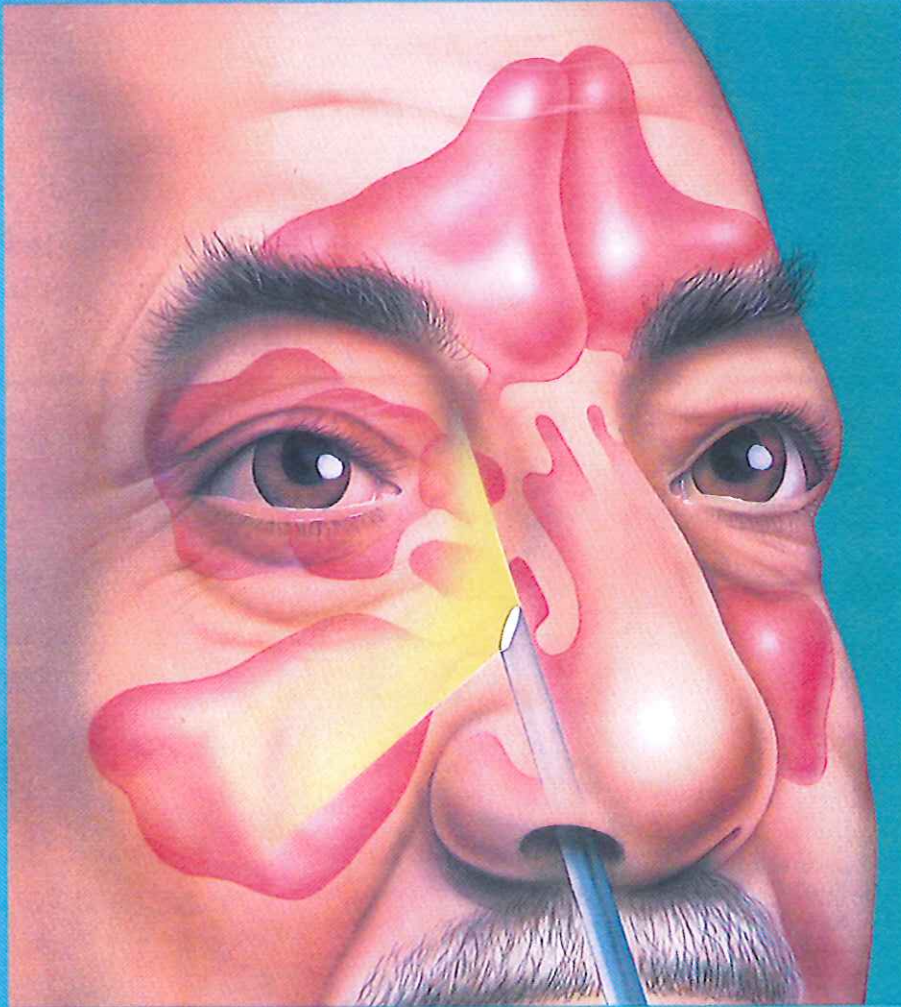


ENDOSCOPIC SINUS SURGERY



Seeing and Operating Inside Your Sinuses

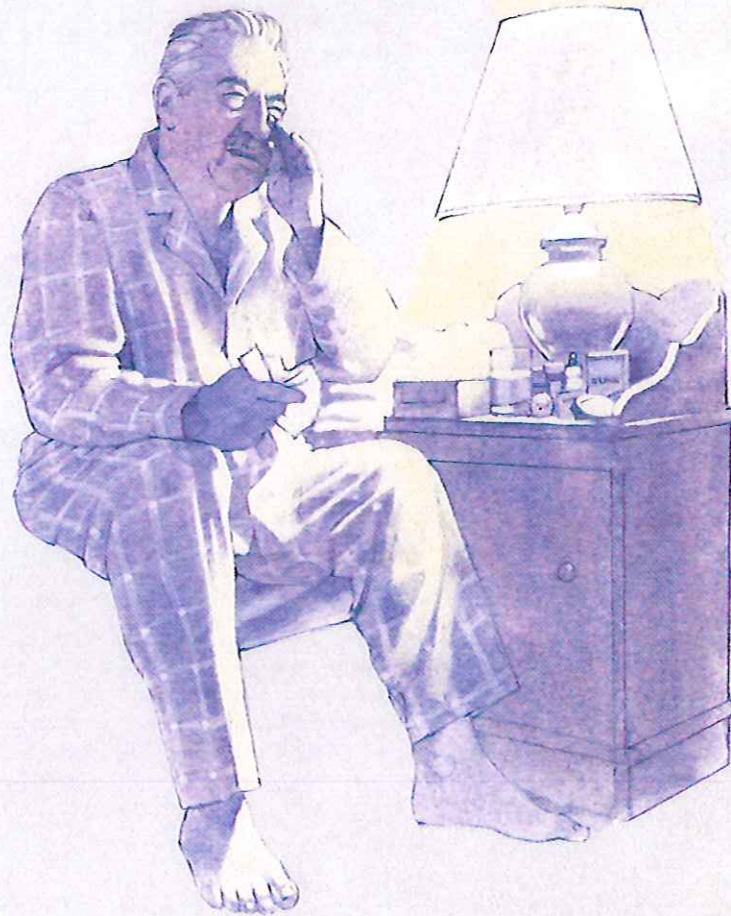
RELIEF

from Sinus Problems

If you suffer from sinus problems, you're in good company. Millions of people are troubled by blocked sinuses—those hollow chambers inside your head. Sinus problems that don't respond well to medication may be treated successfully with **endoscopic sinus surgery**—a technique that allows your doctor to clearly see and operate inside your sinuses.

Plagued by Sinus Problems

Do you suffer from constant (**chronic**) or repeated (**recurring**) sinus problems that require a doctor's care? In either case, your sinuses may have developed blockages that interfere with their ability to drain and to circulate air. A whole host of irritating symptoms may accompany sinus problems, including headaches or difficulty breathing. These symptoms may even keep you awake at night. If you're finding that sinus problems are beginning to affect the quality of your life, consider the benefits of endoscopic sinus surgery.

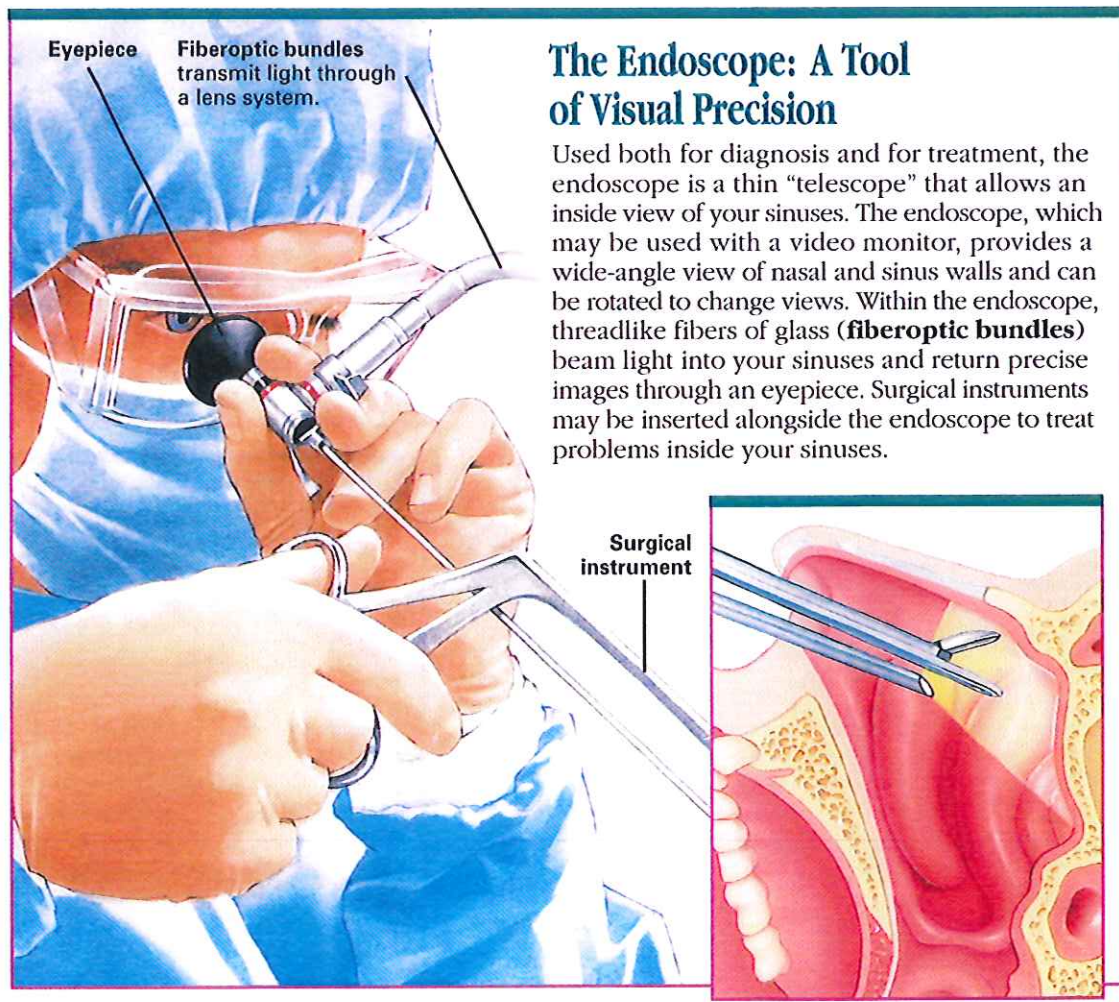
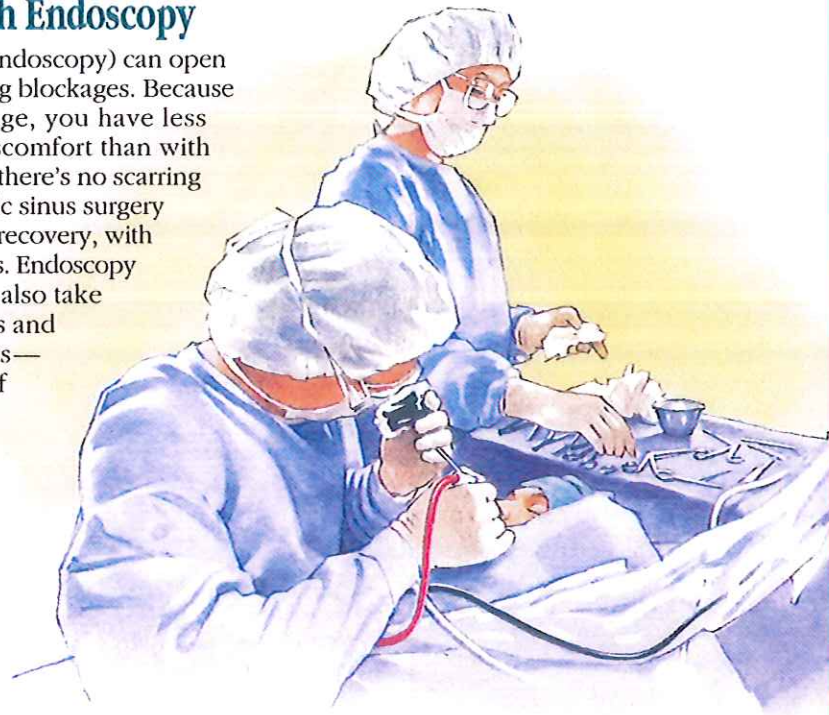


This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.

©1991, 1996, 1999, 2000 The StayWell Company, 1100 Grundy Lane, San Bruno, CA 94066-3030. www.staywell.com (800) 333-3032. All rights reserved. Lithographed in Canada.

Clearing Sinuses with Endoscopy

Endoscopic sinus surgery (endoscopy) can open up your sinuses by removing blockages. Because it causes little tissue damage, you have less swelling, bleeding, and discomfort than with external open surgery. And there's no scarring that you can see. Endoscopic sinus surgery also results in a less painful recovery, with quicker relief from symptoms. Endoscopy is most effective when you also take steps to control future colds and other infections or allergies—the most common causes of sinus problems.



The Endoscope: A Tool of Visual Precision

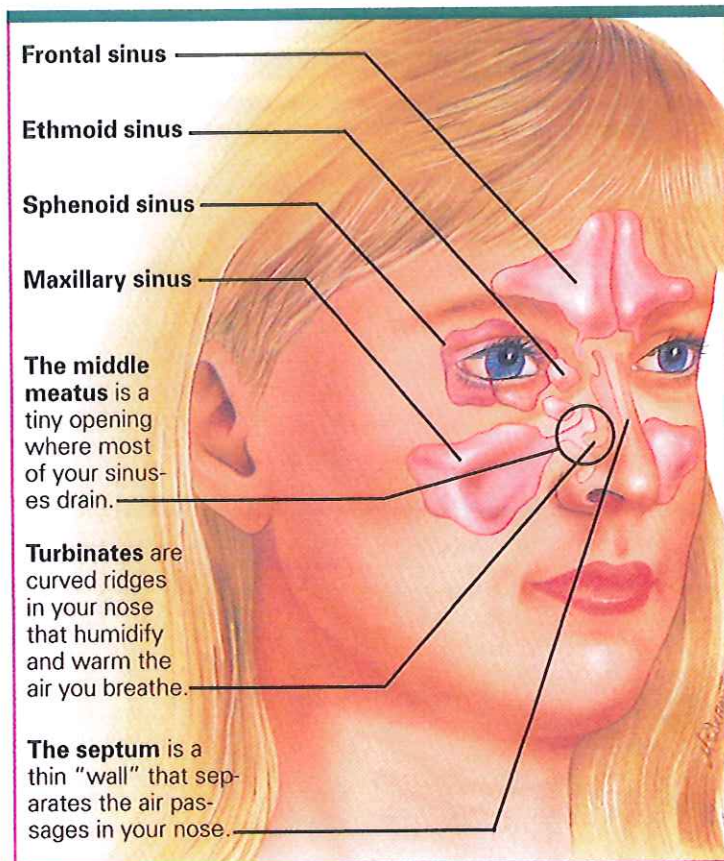
Used both for diagnosis and for treatment, the endoscope is a thin “telescope” that allows an inside view of your sinuses. The endoscope, which may be used with a video monitor, provides a wide-angle view of nasal and sinus walls and can be rotated to change views. Within the endoscope, threadlike fibers of glass (**fiberoptic bundles**) beam light into your sinuses and return precise images through an eyepiece. Surgical instruments may be inserted alongside the endoscope to treat problems inside your sinuses.

Sinuses Provide a **DRAINAGE SYSTEM**

Your sinuses are empty, air-filled chambers. They form an irregular, honeycomb structure between paper-thin bones in your head. When they're working well, your sinuses constantly circulate air and produce and drain mucus, which lubricates your nose and keeps it free of dust and bacteria. But this drainage system can shut down when an underlying problem, such as colds, allergies, or an obstruction, causes blockages.

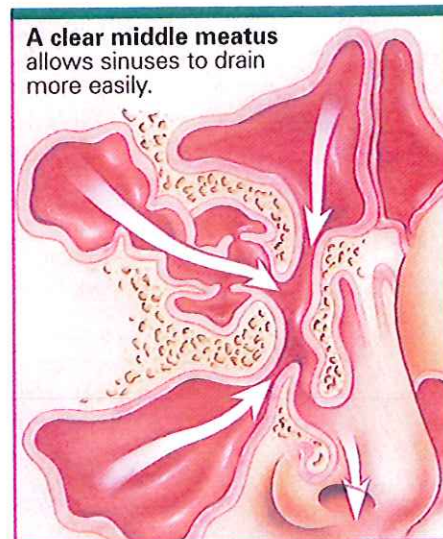
When Sinuses Work Well

You have four pairs of sinuses in your head, each producing thin mucus that drains through openings into your nose and then into the back of your throat, where it's swallowed. When all is working well, you're not even aware of this process. That's because your sinuses are clear—free of swelling and thickened mucus.



Clear Sinuses

At the opening to each sinus is a narrow passageway through which mucus drains—eventually into your nose. When your sinuses are free of swelling and mucus is watery, tiny, brush-like **cilia** can easily sweep mucus through these openings. To ensure a free-flowing system, the **middle meatus**—the "intersection" of your sinuses—must be clear.



When Sinuses Shut Down

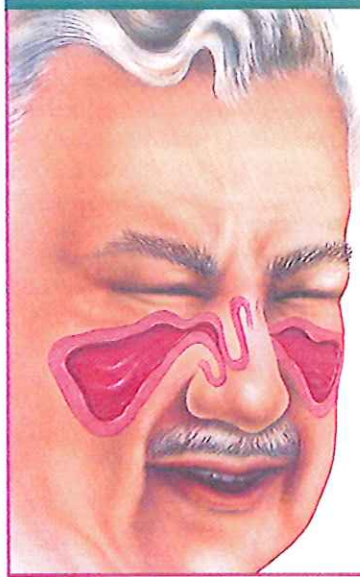
Colds or other infections, allergies, or physical obstructions may lead to a sinus shutdown. This is usually the result of a swollen sinus lining or damaged cilia that can't effectively clear your sinuses of mucus. Drainage problems can lead to a variety of symptoms such as headaches, difficulty breathing, postnasal drip, coughing, a reduced sense of smell, and overall fatigue. Asthma patients' symptoms may worsen.

Colds and Other Infections



A cold or the flu may cause your sinus and nasal linings to swell. Sinus openings can become blocked, causing mucus to back up. This stagnant mucus becomes a perfect place for bacteria to grow. Thick yellow or discolored mucus is one sign of infection.

Allergies

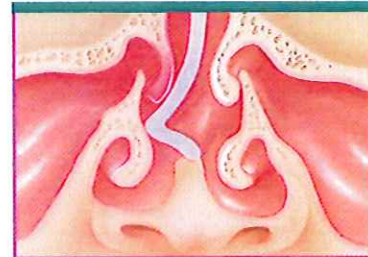


Sensitivity to certain substances can cause a reaction that makes your sinus and nasal linings swell. Long-term swelling clogs your sinuses and prevents the cilia from working well. Usually your symptoms are persistent but less severe than with colds.

Obstructions



A **polyp** is a sac of swollen tissue, often the result of allergies or an infection. It may block the middle meatus and grow large enough to block your nasal passages.

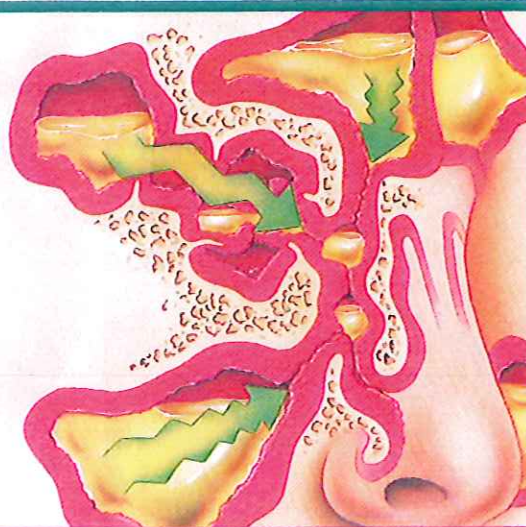


A **deviated septum** is a crooked partition in your nose. Often the result of injury, a deviated septum sometimes blocks your middle meatus.

Blocked Sinuses

Sinus problems can be chronic or recurring. If blockage is chronic, you're likely to develop problems in more than one sinus. If blockage recurs due to repeated colds or allergies, sinus tissues may have time to heal between attacks. In this case, problems may be restricted to the middle meatus area. Whether the problem is chronic or recurring, the "intersection" of your sinuses becomes clogged, preventing proper drainage.

A **blocked middle meatus** can cause drainage problems in more than one sinus.



Your Medical EVALUATION

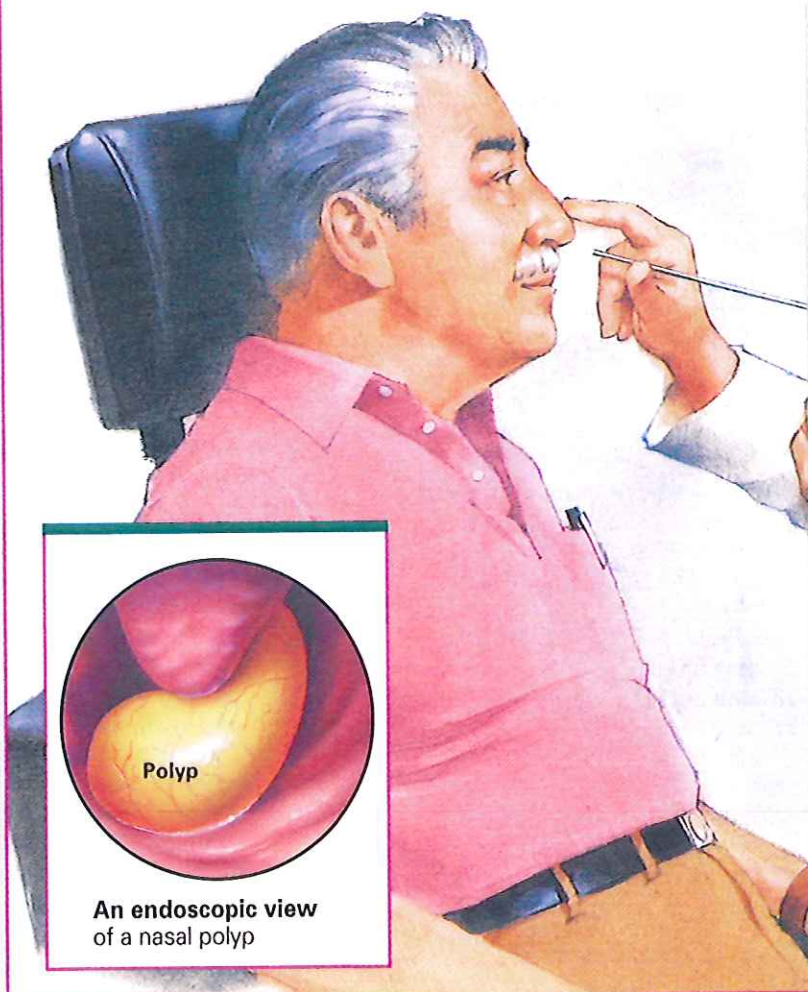
A thorough evaluation is necessary to uncover the cause and extent of your sinus problem. It includes a medical history, endoscopic exam, and CT scan—a special type of x-ray. Depending on the results of your evaluation, your doctor may recommend endoscopic sinus surgery. After your surgical plan is finalized, you can take steps to prepare for surgery.

Medical History

A medical history helps your doctor pinpoint the symptoms and cause of your sinus problem and review the effectiveness of any past treatment such as antibiotics or allergy medication. Let your doctor know about any medications you're taking now and any medical conditions you have, such as high blood pressure, bleeding problems, eye diseases such as glaucoma, or asthma. Your doctor will take these into account when tailoring your surgical plan.

Endoscopic Exam

An endoscopic exam is a simple, quick procedure—usually painless. Your doctor uses the endoscope to check nasal passages for thickened mucus, swelling, redness, polyps, and other symptoms. A few minutes beforehand, your nasal passages are sprayed to anesthetize the linings and shrink tissues, making it easier for your doctor to maneuver inside. Along with the endoscopic exam, your ears, nose, and throat may be examined.



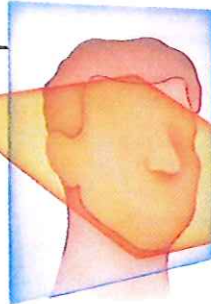
An endoscopic view
of a nasal polyp

CT Scan

Usually done before surgery, a CT scan is a special type of x-ray that gives clear, cross-sectional views of your sinuses. Scans from different views act as maps for your doctor during surgery, showing "landmarks" and distances between them and revealing the precise extent of blockage.



Coronal view of the sinuses



Axial view of the sinuses



Your Surgical Plan

The evaluation reveals the scope of your sinus problem, which determines how extensive surgery will be. Your doctor now will also decide on the type of anesthesia to be used. General anesthesia is often used. But you may have a local anesthetic if the problem is confined to a limited area, and there's enough room inside your nose and sinuses for your doctor to work easily.

Risk and Complications

As with any surgery, endoscopic sinus surgery carries a slight risk of infection and bleeding. The bone between the sinuses and the eyes and brain is thin and can be damaged. So bruising, black eyes, vision problems, or spinal fluid leakage may occur in very rare cases.



Pre-op Checklist

Here are a few things you can do to prepare for surgery. Your participation is necessary to ensure good results.

- ✓ Eliminate aspirin and aspirin-containing medications two weeks beforehand.
- ✓ Tell your doctor about any medications you're taking, and ask whether you should take any the morning of surgery.
- ✓ Don't drink or eat after midnight, the evening before surgery.
- ✓ Arrange for a ride home after the procedure.
- ✓ Be prepared to have lab tests 48 hours before surgery.
- ✓ Buy a bulb syringe for the salt-water nasal rinses you'll do after surgery if advised by your doctor.

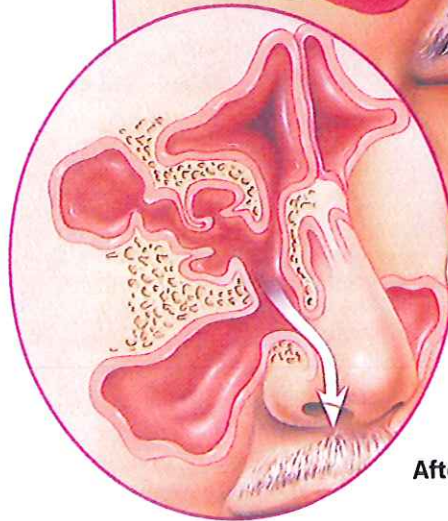
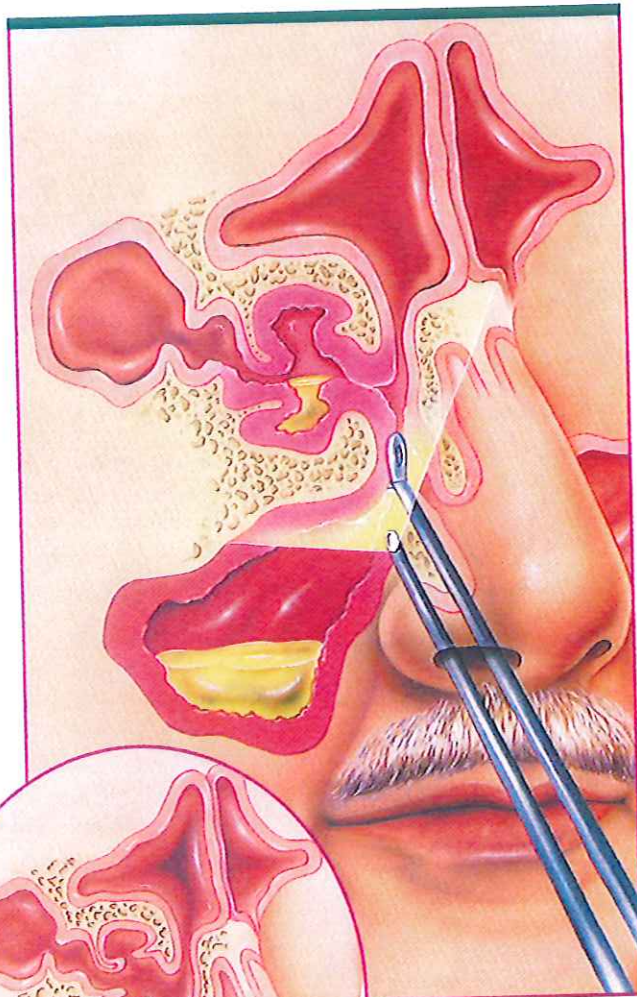
Endoscopic SINUS SURGERY

Depending on the extent of your sinus problem, you may need only a limited procedure, which mainly involves clearing the middle meatus area. Or your doctor may clear other sinuses as well. If you have general anesthesia, you won't be awake for the surgery. If you have a local anesthetic, you may hear some "crunching" sounds or feel a "tugging" sensation, which should cause you no pain.

□ The Limited Procedure

Since the middle meatus is the intersection of your sinuses, clearing this area alone often takes care of problems in other sinuses, especially if you don't suffer from chronic problems. This limited procedure involves opening up the front of the ethmoid sinus. Your doctor may also take out any small polyps located in the middle meatus and widen the entrance to the maxillary sinus. If the ethmoid sinus is badly blocked, a more extensive procedure may be required. Your doctor will move further back into the ethmoid sinus, opening bony partitions that block drainage or removing larger polyps.

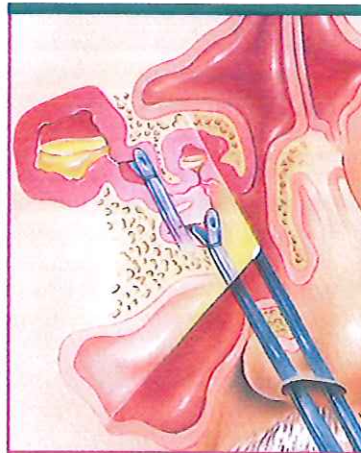
During surgery



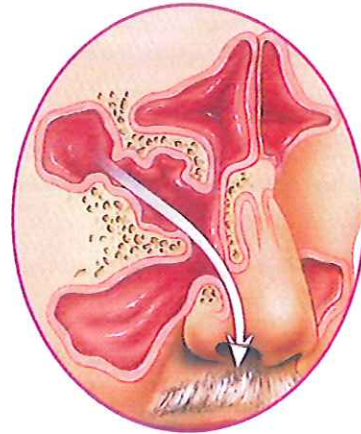
After surgery

□ To Clear Sphenoid Blockages

After the ethmoid sinus is cleared, your doctor can examine your sphenoid sinus. If it's blocked, your doctor can improve drainage by opening up the front wall of the sphenoid sinus.



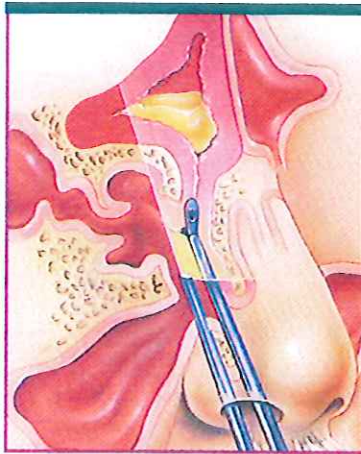
During surgery



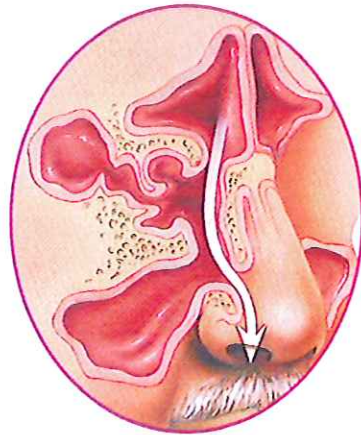
After surgery

□ To Clear Frontal Blockages

Blockages in the frontal sinuses may require removing the bony partitions between the ethmoid and frontal sinuses. Your doctor may also clear the frontal sinus opening, which is as far as instruments can reach inside this sinus.



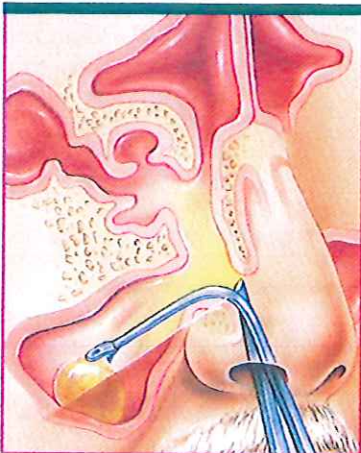
During surgery



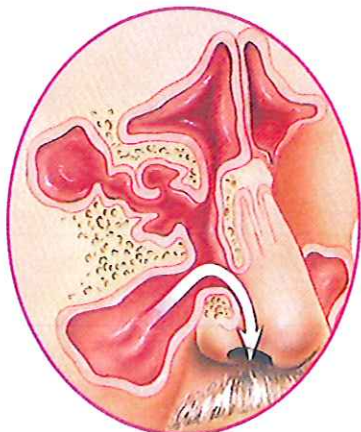
After surgery

□ To Clear Maxillary Blockages

First, your doctor enlarges the opening to the maxillary sinus. Then, using angled instruments, any swollen tissue and large polyps or **cysts** (abnormal sacs of tissue) are removed.



During surgery



After surgery

RECOVERY

From Endoscopy

You play a critical role in recovery after surgery. Since endoscopic sinus surgery is often a “same day” procedure, you usually can go home soon after surgery. Once home, you can take steps to speed healing and prevent complications. By doing your best to prevent colds, flu, and allergies, you can help minimize the negative effects of any future sinus problems.

After Surgery

You'll spend one to two hours in a recovery area. A nasal dressing may be used to absorb any bloody drainage, which should be minimal. When you're no longer too groggy from the anesthetic and have no unusual nausea or bleeding, you'll be discharged. Be sure to have someone drive you home.



The First Few Days

DO

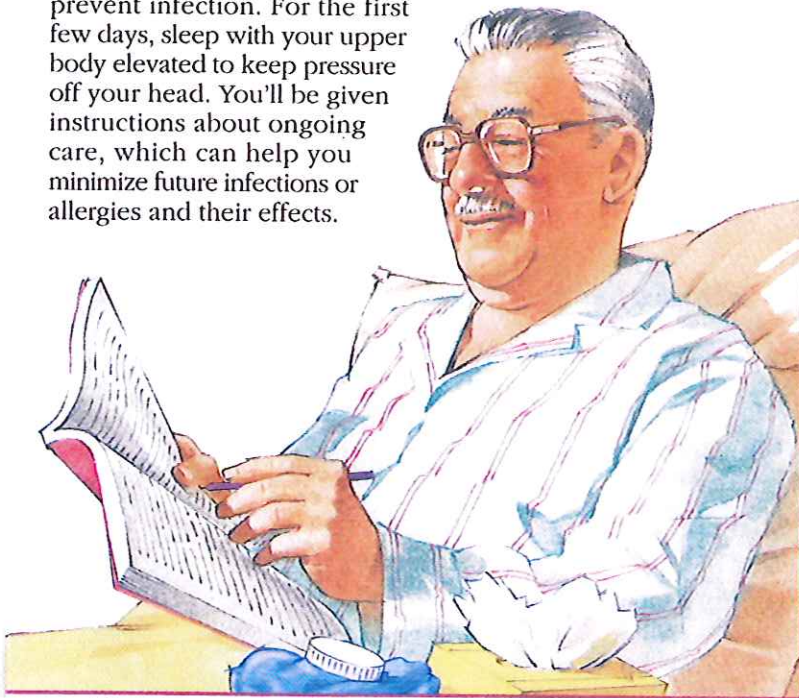
- Change your nasal dressing as needed to absorb blood.
- Use salt-water rinses as prescribed by your doctor to keep your sinuses moist:
 - Mix $\frac{1}{4}$ teaspoon salt and $\frac{1}{4}$ teaspoon baking soda in eight ounces of fresh, warm water.
 - Use a bulb syringe to squirt this solution into your nose a few times a day.

DON'T

- Increase the risk of bleeding:
 - blowing your nose.
 - exercising, straining, lifting, or bending forward.
 - eating hot or spicy foods.

Home Recovery

Taking a few precautions during the first few weeks after surgery can help prevent complications and speed your healing. Take it easy for about a week, during which time you may take medication for pain, anti-inflammatories for swelling, and antibiotics to prevent infection. For the first few days, sleep with your upper body elevated to keep pressure off your head. You'll be given instructions about ongoing care, which can help you minimize future infections or allergies and their effects.



Follow up with your doctor a couple of days after surgery. Your doctor will check your progress and remove any nasal dressing. You'll need frequent, brief visits after endoscopic surgery to clear out old blood and mucus. This promotes faster healing and helps to prevent complications. Consult your doctor about additional, long-term follow-up.

The First Few Weeks

- Take medication as directed by your doctor.
- Continue to use salt-water rinses.
- Use a humidifier regularly to keep mucus and blood from drying up.
- Keep your appointments with your doctor.

Ongoing Prevention

- Aid drainage by keeping your sinuses moist and mucus thin:
 - Use a humidifier.
 - Drink several glasses of fluids daily.
 - Use salt-water rinses when you get a cold.
- Travel by plane for a few weeks after surgery to avoid pressure changes and the drying effects of airplane air.
- Take drying medication such as antihistamines, unless prescribed by your doctor.
- Expose yourself unnecessarily to substances that cause you to have allergic reactions.
- Use dehydrating substances such as alcohol and coffee or expose yourself to irritants such as cigarettes.

Call your doctor if

- you're bleeding excessively.
- you have signs of infection, such as fever, yellow or greenish drainage, unrelieved headache, or increased pain.
- you have decreased or double vision, a stiff neck, or you feel extremely fatigued.

BREATHING FREELY Once Again

You may once have taken your sinuses for granted. But by relieving your symptoms, endoscopic sinus surgery may help you to appreciate even the simplest of pleasures. Once again, you can breathe freely and savor the best things in life—like the rich aromas of a home-cooked meal.

StayWell
featuring **KRAMES**

Consultant:
Thomas L. Engel, MD, Otolaryngology
With contributions by:
Janet Bradley, RN,
Patient Education Specialist
Dale H. Rice, MD, Otolaryngology

